Modeling a lemonade stand

FINANCIAL MODELING

LECTURE SUMMARY

Covered in this lecture:

The first steps in modeling

- The first step in modeling anything is thinking about everything that's involved in the business and making a list

- 1. What goes into the product?
  In order to make a lemonade you will need water, sugar, lemons, and ice

- 2. How do you make the product?
  For making lemonade you will need a lemon juicer, and then you will need a pitcher and cups

- 3. How do you deliver the product?
  In order to serve the lemonade, you need to have a table, a chair, an umbrella, a sign that gets customers' attention, and probably a cashbox

- You have to assume that not all people who walk by your stand are going to buy lemonade

- You will need to keep track of:
  - how many people walk by
  - how many of them stop at your stand
  - how many of them actually end up buying

See you next lecture!

Unit economics (1)

FINANCIAL MODELING

LECTURE SUMMARY

Covered in this lecture:

How to calculate the cost per cup

- The core metric of unit economics is the average cost of every cup of lemonade you serve - how much it cost to make it

- You will need to do some research to find out a few basic things:
  - how many lemons does it take to make one cup of lemonade?
  - how much juice you can get out of a lemon?
  - how much ice do you put in a cup?
  - what's the ratio for water, sugar, and lemons for one cup in order to get the best taste?

- Our assumptions are that the ratio is 1:1:1, a cup is 16oz, from which 4oz is ice, which means that we will need 4oz of water, 4oz of sugar, and 4oz of lemon juice

- Find out how much every ingredient costs if you buy it in bulk, then calculate the cost for 4oz
- We assume that the juice of 2 lemons is enough for one cup of lemonade
- Calculate the cost of the napkins, cups, and straws
- You can finally add everything up and see how much it costs to make a cup of lemonade (in our example, $0.81)

	Size	Cost	Cost/unit or cost/oz	Cost/cup
Ice	10lb	$ 4.00	$ 0.0250	$ 0.1000
Water	5gal	$ 0.25	$ 0.0004	$ 0.0016
Sugar	5lb	$ 2.50	$ 0.0313	$ 0.1250
Lemon Juice	1	$ 0.15	$ 0.0857	$ 0.3429
Lemon Garnish	1	$ 0.15	$ 0.0188	$ 0.0188
Cups	500	$ 79.00	$ 0.1580	$ 0.1580
Napkins	500	$ 25.00	$ 0.0500	$ 0.0500
Straws	500	$ 7.00	$ 0.0140	$ 0.0140
			Subtotal	**$ 0.81**

See you next lecture!

Unit economics (2)

FINANCIAL MODELING

LECTURE SUMMARY

Covered in this lecture:

More costs involved

- In order for your model to be realistic, you have to account for two more things when you calculate the cost per cup: waste and contingency

- **Waste is any of the product that you lose without recouping any payment for**

  - In food & beverage, you inevitable lose a certain amount of your product because you can't store it forever if it's not sold

- **Contingency means anything that can go wrong and will require an extra cost that is impossible to predict**

  - It's best to plan for the worst

	Size	Cost	Cost/unit or cost/oz	Cost/cup
Ice	10lb	$ 4.00	$ 0.0250	$ 0.1000
Water	5gal	$ 0.25	$ 0.0004	$ 0.0016
Sugar	5lb	$ 2.50	$ 0.0313	$ 0.1250
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Napkins	500	$ 25.00	$ 0.0500	$ 0.0500
Straws	500	$ 7.00	$ 0.0140	$ 0.0140
			Subtotal	**$ 0.81**
10% Waste Padding				**$ 0.08**
Final Costs/Cup				**$ 0.89**

See you next lecture!

Calculating the labor cost & selling price

FINANCIAL MODELING

LECTURE SUMMARY

Covered in this lecture:

How to include labor in your final price

- Whether you hire someone or you do it all by yourself, you will have to include the cost of labor in your model, in order to set the final selling price of a cup

- **Calculating the cost of labor:**

  - Estimate how long it takes to make a batch of lemonade
  - Estimate how long it takes to sell that batch of lemonade
  - Estimate how many people walk by the area you're targeting
  - Estimate what percentage of them will stop at your stand and what percentage of them will buy

- We assume that in a good location we can sell 40 cups per hour, for 5 hours a day (which means 200 cups/day), and it also takes 5 hours to make those 200 cups

- Think about the amount of money you'd like to get for one hour of work

- If you want to get $30/hour, and you work for 10 hours a day, you need to get $300 in profits to make the whole business worth it

- Add the unit cost for 200 cups ($0.89*200=$178) to the profit wanted ($178+$300=$478) and divide that by 200 cups to get the price you need to sell a cup for ($478/200=$2.39)

- If you plan for the worst, round that up to $2.50 and that's the final price you will ask for a cup

Price Per Cup	$2.50
Cost Per Cup	$0.89
Desired Profit Per day	$300
Hours Per Day	10
Desired Profit/Hour	$30
Min Cups Sold Per Hour Needed	18.6
Cups Sold Per Min	**0.31**

See you next lecture!

Jumpstart summary

FINANCIAL MODELING

LECTURE SUMMARY

Covered in this lecture:

The basics of modeling

- All financial models, regardless of the industry, follow the same rough pattern:

- **- Think about the business**
  - Research
  - Write down all the aspects worth analyzing
  - Make some educated assumptions

- The activity of financial modeling is just an activity of getting to know your business better and doing your best to understand the logistical and market dynamics that are going to affect you going forward

See you next lecture!